# II87/09 PREVIOUS RULE AND AMENDMENTS

<table>
<thead>
<tr>
<th>#</th>
<th>TYPE</th>
<th>TITLE</th>
<th>LL87/09 RULE / YEAR 2012</th>
<th>NEW AND/OR UPDATED</th>
<th>LL87/09 RULE AMENDMENTS OF YEAR 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical</td>
<td>Definitions Section</td>
<td>LL87/09</td>
<td>New + Updated</td>
<td>Section 1. Subdivision (a) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is REVISED and a new subdivision (a) is added to read as follows: (a) Definitions. As used in this section, the following terms have the following meanings: ACCEPTABLE ENERGY EFFICIENCY REPORT (EER): An acceptable EER is a technical energy audit and retro-commissioning report filed by an energy auditor and retro-commissioning agent that meets the requirements of the Administrative Code and this section, as determined by the department.</td>
</tr>
<tr>
<td>2</td>
<td>Technical</td>
<td>Definitions Section</td>
<td>None</td>
<td>New</td>
<td>COMMON AREA: Common area is an area that is not considered a tenant area. Common area typically includes but is not limited to non-occupiable spaces such as egress corridors, egress stairwells, elevators, lobbies, public restrooms, janitorial closets, shared amenities, storage, mechanical or electrical rooms containing equipment that is owned, maintained and operated by the building owner. NON-COMMON OWNER AREA: A non-common owner area is an occupiable space, as defined in section 202 of the Building Code, that: (1) is not a non-common tenant area; and (2) is maintained by and accessible to the building owner. NON-COMMON TENANT AREA: A non-common tenant area is an area of a dwelling unit or other space leased or intended to be leased.</td>
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<tr>
<td>3</td>
<td>Technical</td>
<td>Definitions Section</td>
<td>LL87/09</td>
<td>New</td>
<td>MAJOR EQUIPMENT, SUB-EQUIPMENT AND COMPONENTS: Major equipment is a building system listed in Table 1. Sub-equipment and components of the associated major equipment are listed in Table 2</td>
</tr>
<tr>
<td>4</td>
<td>Technical</td>
<td>Major Equipment</td>
<td>None</td>
<td>New</td>
<td>Major equipment is a building system listed in the Table 1: Group R Occupancies: Boilers: All boilers with rated input capacity greater than or equal to 100,000 Btu/h Chillers: All chillers Cooling towers and dry coolers: All cooling towers and dry coolers Air handling units (AHU), fan coil units (FCU), heat recovery units (HRU), heating and ventilation units (HMV), packaged and split air conditioning units: Capacity greater than or equal to 2,000 CFM HVAC Motors, fans and pumps: Greater than or equal to 2.5 HP Heat exchangers: Serving 10,000 square feet or more Domestic hot water heaters: Storage and instantaneous: All water heaters with rated input capacity greater than 155,000 Btu/h Domestic water pumps: Greater than or equal to 10 HP</td>
</tr>
<tr>
<td>5</td>
<td>Technical</td>
<td>Sub-Equipment and Components</td>
<td>None</td>
<td>New</td>
<td>Sub-equipment and components of the major equipment—Table 2: Existing cabinets/casing Terminal and induction units Access doors Control panels Controls and sensors Interlocks Electrical/mechanical switches Operating and modulating pressure controls Valves Actuators Bumpers Chilled or hot water coils Steam or DR coils Boils VAV and fan powered boxes Steam traps Grilles Filters Air outlets Fans and motors VFDs Ductwork Piping</td>
</tr>
</tbody>
</table>
7 Administrative References

L127/09 ENERGY AUDITOR.

An approved agency authorized by the department to perform energy audits and to certify audit reports required by this article. Until such time as there is a national standard establishing qualifications for persons performing energy audits and such standard has been adopted by the department, an energy auditor shall be a registered design professional with such other certification or qualification as the department deems to be appropriate. After the establishment of such a national standard, the department may adopt the qualifications of the national standard with such modifications as the department deems to be appropriate.

Existing rule of year 2012

(b) References.


8 Administrative Retro-Commissioning Agent Qualifications

L127/09 RETRO-COMMISSIONING AGENT.

An individual, who shall not be a certified refrigerating system operating engineer or a licensed high pressure boiler operating engineer on the staff of the building being retro-commissioned, authorized by the department to certify retro-commissioning reports required by this article. Until such time as there is a national standard establishing qualifications for persons who perform retro-commissioning and such standard has been adopted by the department, a retro-commissioning agent shall be a registered design professional, a certified refrigerating system operating engineer, or a licensed high pressure boiler operating engineer, with such other qualification or certification as determined by the department. After the establishment of such a national standard, the department may adopt the qualifications of the national standard with such modifications as the department deems to be appropriate.

Existing rule of year 2012

(b) Retro-commissioning agent qualifications.

(i) The retro-commissioning agent performing or supervising the retro-commissioning may not be on the staff of the building being retro-commissioned. The retro-commissioning agent must be a registered design professional, a certified refrigerating system operating engineer, or a licensed high pressure boiler operating engineer. In addition, the retro-commissioning agent or an individual under the direct supervision of the retro-commissioning agent must be one of the following:

(A) a Certified Commissioning Professional (CCP) certified by the Associated Facilitators of Building Engineering Systems (AFBES); or
(B) a Certified Commissioning Project Manager (CCPM) certified by the National Board of Certified Commissioners (NBCC); or
(C) a Certified Commissioning Project Manager (CCPM) certified by AEE; or
(D) a Certified Commissioning Project Manager (CCPM) certified by ASHRAE; or
(E) a Commissioning Process Manager Professional certified by ASHRAE; or
(F) an Accredited Commissioning Process Authority Professional certified by the University of Wisconsin; or
(G) a Certified Commissioning Authority certified by the American Association of Air Conditioning Contractors (AAAC) co-sponsored.

(ii) A Commissioning Process Professional certified by AEE; or
(iii) A Technical Retro-Commissioning Certified Professional certified by AEE.

This addition re-clarifies the scope of work for L127/09 and modifies existing rule of year 2012


| Page 3 of 13 |

| 9   | Technical Energy Audit Procedures |

| Rule amendments 2012 (vi) Energy Audit Procedures. An energy audit must be performed on the base building systems of a covered building prior to filing an energy efficiency report. The scope of such energy audit must be at a minimum equivalent to the procedures described for a Level 1 Energy Survey and Analysis in accordance with Procedures for Commercial Building Energy Audits, 2011 edition, published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE). The building’s operations and maintenance staff must be consulted at the start of and during the energy audit process in order to establish the current facility requirements. |

| Updated | Energy audit procedures. An energy audit must be performed on the base building systems of a covered building prior to filing an EER. The scope of such energy audit must be at a minimum equivalent to the procedures, requirements, and reporting described for a Level 1 energy audit in accordance with ANSI/ASHRAE/ACCA Standard 2011-2018 – Standard for Commercial Building Energy Audits, published by ASHRAE. |
| Page 10 | Technical | Contents of the energy audit report. | L87/09 | §28-308.2.1 Contents of audit report
The energy auditor shall prepare and certify a report of the energy audit. Except as otherwise provided in section 28-308.7, the audit report shall include such information relating to the audit as shall be specified in the rules of the department, including but not limited to (i) the date that the audit was completed, and (ii) the information specified in section 28-308.2. Existing rule of year 2012
(a) Contents of Energy Audit Report.
An audit report must be prepared for the owner that is at a minimum equivalent to the report prescribed by ASHRAE Procedures for Commercial Building Energy Audits, 2012 edition, and must include the information required by §28-308.2 of the Administrative Code. Such report must be retained by the owner in accordance with subdivision (i) of this section. The energy auditor must certify that the audit satisfies the requirements of §28-308.2 of the Administrative Code and the rule. |

| Page 11 | Technical | Retro-commissioning procedures | L87/09 | §28-308.3.1 Contents of retro-commissioning report.
The retro-commissioning agent shall prepare and certify a retro-commissioning report. The retro-commissioning report shall include such information relating to the retro-commissioning as shall be set forth in the rules of the department including, at a minimum:
1. Project and team information:
   1.1 Building address.
   1.2 Experience and certification of person performing retro-commissioning and any staff involved in the project.
   1.3 Name, affiliation, and contact information for persons performing retro-commissioning and members of the retro-commissioning team, owner of building, and facility manager of building.
2. Building information:
   2.1 List of all HVAC, domestic hot water, electrical equipment, lighting, and conveyance equipment types in the base building systems.
2.2 Benchmarking output.
   3. Testing protocol:
   1.1.1 List of all equipment types tested.
   1.2.2 For each equipment type tested, a list of the sample rates (percent of each type of equipment tested), the testing methodology, including any diagnostic equipment used, and the test results.
   1.3.1 List of integrated system testing performed.
   4. Master list of findings, including for each, the name of the retro-commissioning measure and its assigned number, a brief description of the measure, recommended corrections, the benefits attained, estimated annual savings (energy and cost), the estimated implementation cost, and the simple payback.
   5. Deficiencies corrected:
   5.1.1 List of repairs completed during investigation.
   5.2 List of deficiencies corrected, including, for each deficiency, the date corrected, by whom the correction was made, the actual cost, and projected savings.
Existing rule of year 2012
(a) Contents of retro-commissioning report.
In accordance with §28-308.3.1 of the Administrative Code, the retro-commissioning agent must prepare and certify a retro-commissioning report that satisfies the requirements of §28-308.2 of the Administrative Code and this rule. Such report must be retained by the owner in accordance with subdivision (i) of this section. |

Updated
This addition re-categorizes the scope of work for L87/09 and modifies existing rule of year 2012
The contents of the audit report must include all contents as in the Level 2 energy audit report outline in Informative Annex D of standard 211-2018, or subsequent edition.

Retro-commissioning procedures.
The base building system components subject to retro-commissioning as per §28-308.3 of the Administrative Code must be assessed in accordance with §28-308.3 of the Administrative Code, including the testing protocols, master list of findings and repairs and deficiencies corrected, and this section. Deficiencies found in the assessment must be corrected as required by this subdivision. Notwithstanding the particular provisions of this subdivision, where less than ninety percent of components tested in the initial sample set is found to be satisfactory, corrections may be made to all similar system components without further testing. The building’s operations and maintenance staff must be consulted at the start of and during the retro-commissioning process in order to establish the current facility requirements.

Updated
Removed the consultation of the building’s operations and maintenance staff.
Modified the acceptance of “less than ninety percent of components tested in the initial sample set is found to be satisfactory”.

| Page 12 | Technical | Contents of retro-commissioning report | L87/09 | §28-308.3.1 Contents of retro-commissioning report.
The retro-commissioning agent shall prepare and certify a retro-commissioning report. The retro-commissioning report shall include such information relating to the retro-commissioning as shall be set forth in the rules of the department including, at a minimum:
1. Project and team information:
   1.1 Building address.
   1.2 Experience and certification of person performing retro-commissioning and any staff involved in the project.
   1.3 Name, affiliation, and contact information for persons performing retro-commissioning and members of the retro-commissioning team, owner of building, and facility manager of building.
2. Building information:
   2.1 List of all HVAC, domestic hot water, electrical equipment, lighting, and conveyance equipment types in the base building systems.
2.2 Benchmarking output.
3. Testing protocol:
   1.1.1 List of all equipment types tested.
   1.2.2 For each equipment type tested, a list of the sample rates (percent of each type of equipment tested), the testing methodology, including any diagnostic equipment used, and the test results.
   1.3.1 List of integrated system testing performed.
   4. Master list of findings, including for each, the name of the retro-commissioning measure and its assigned number, a brief description of the measure, recommended corrections, the benefits attained, estimated annual savings (energy and cost), the estimated implementation cost, and the simple payback.
   5. Deficiencies corrected:
   5.1.1 List of repairs completed during investigation.
   5.2 List of deficiencies corrected, including, for each deficiency, the date corrected, by whom the correction was made, the actual cost, and projected savings.
Existing rule of year 2012
(a) Contents of retro-commissioning report.
In accordance with §28-308.3.1 of the Administrative Code, the retro-commissioning agent must prepare and certify a retro-commissioning report that satisfies the requirements of §28-308.3 of the Administrative Code and this rule. In establishing the table of contents, the retro-commissioning agent shall refer to “K. Informational Appendix – Retro-Commissioning Report” of the NEBB Standard 5120-2016, or any subsequent, edition – Technical Retro-Commissioning of Existing Buildings as guidelines until a final retro-commissioning report outline is prescribed by the department. Such report must include the model number, serial number, last calibration date and manufacturer recommended calibration frequency for each reference instrument used for functional performance testing. The report must also include photos of deficiencies and repairs. All photos must include a timestamp visible on the front of the photo within the report. Calibration certificates and additional photos must be provided, if requested by the department. The retro-commissioning report must be uploaded through the web-based Energy Audit Report Management tool when submitting to the department. Such report must be retained by the owner in accordance with subdivision (i) of this section. | New
This addition re-categorizes the scope of work for L87/09 and modifies existing rule of year 2012
In establishing the table of contents, the retro-commissioning agent shall refer to “K. Informational Appendix – Retro-Commissioning Report” of the NEBB Standard 5120-2016, or any subsequent, edition – Technical Retro-Commissioning of Existing Buildings as guidelines until a final retro-commissioning report outline is prescribed by the department. Such report must include the model number, serial number, last calibration date and manufacturer recommended calibration frequency for each reference instrument used for functional performance testing. The report must also include photos of deficiencies and repairs. All photos must include a timestamp visible on the front of the photo within the report. Calibration certificates and additional photos must be provided, if requested by the department. The retro-commissioning report must be uploaded through the web-based Energy Audit Report Management tool when submitting to the department. Such report must be retained by the owner in accordance with subdivision (i) of this section. |
8. Exposed hot and chilled water and steam pipes three (3) inches or greater in diameter with associated control valves are insulated in accordance with the standards of the New York City energy conservation code as in effect for new systems installed on or after July 1, 2010.

4. Envelope:
   (i) Sealants and weather-stripping.
   (ii) Windows and doors.

5. Training and documentation.

9.6. Paragraphs (1) and (2) of subdivision (6) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York are REPEALED and new paragraphs (1), (2), (3), (4) and (5) are added to read as follows:

1. HVAC and service water equipment.
   (i) Pre-testing verification.
   (ii) Functional performance testing.
   (iii) Temperature and pressure setpoints and setbacks.
   (iv) Sensors.
   (v) Simultaneous heating and cooling.
   (vi) Boilers tuned for optimal efficiency.
   (viii) Leaks.

2. HVAC and service water distribution.
   (i) Pipe insulation.
   (ii) High pressure steam traps.
   (iii) One-pipe steam distribution.
   (iv) Two-pipe steam distribution.
   (v) Air-side distribution.
   (vi) Water-side distribution.
   (vii) Domestic hot water system.
   (viii) Mechanical ventilation rates.

3. Lighting system.
   (i) Light levels.
   (ii) Sensors and controls.
   (iii) Windows and doors.

Updated 28 retro-commissioning items have been re-organized, re-sorted and re-classified to re-clarify the scope of work for LL87/09 and modify existing rule of year 2012
2.9 In all easily accessible locations, sealants and weather stripping are installed where appropriate and are in good condition.

3. Training and documentation:
1. Permits for all HVAC, electrical and plumbing equipment are in order.
2. Critical operations and maintenance staff have received appropriate training, which may include labor/management training, on all major equipment and systems and general energy conservation techniques.
3. Operational and maintenance record keeping procedures (log books, computer maintenance records, etc.) have been implemented.
4. The following documentation is site and accessible to the operator: the operations and maintenance manuals, if such manuals are still available from the manufacturer, the maintenance contracts, and the most recent retro-commissioning report.

Existing rule of year 2012
1. Operating protocols, calibration, and sequencing.
   (i) Heating, ventilation, and air conditioning (HVAC) system temperature and humidity set points and setbacks.
   (ii) HVAC sensors.
   (iii) HVAC controls.
   (iv) Load distribution.
   (v) Ventilation rates.
   (vi) System automatic reset functions.
   (vii) Adjustments to oversized or undersized equipment.
   (viii) Simultaneous cooling and heating.
   (ix) HVAC System Econozone controls.
   (x) HVAC distribution balancing.
   (xi) Light levels.
   (xii) Lighting sensors and controls.
   (xiii) Domestic hot water heater temperature settings.
   (xiv) Water pumps.
   (xv) Water leaks.
   (2) Cleaning and repair.
      (i) HVAC equipment.
      (ii) Filter cleaning and replacement.
      (iii) Light fixture cleanliness.
      (iv) Operating conditions of motors, fans and pumps.

   (a) Steam traps.
   (b) Manual override remediation.
   (c) Filters tuned for optimal efficiency.
   (d) Pipe insulation.
   (e) Sealants and weather stripping.
   (f) Training and documentation.

   New
   This addition re-clarifies the scope of work for LL87/09 and modifies existing rule of year 2012
   Added a sample set of Pre-testing verification of all major equipment and its sub-equipment and components in all common areas, at least 20% of such equipment in the non-common owner areas and at least 10% of such equipment in the accessible non-common tenant areas must be conducted to check for cleanliness, proper operation and correction.
   Existing HVAC equipment and filter cleaning, replacement under cleaning and repair are now incorporated within the pre test verification checklist.
   Added Functional Performance testing for all major equipment in the common areas.
   Existing HVAC controls, Load distribution, system automatic reset functions, HVAC economizer controls and water pumps sections are now incorporated within the functional performance testing.

   Updated
   Temperature and Humidity setpoints and setbacks have been revised to temperature and pressure setpoints and setbacks.
   Added a sample set of testing, verification and correction of such system set points are appropriate to the CFR and setbacks operate during unoccupied periods as stated by the CFR. Where set points and setbacks require correction, the condition must be corrected and noted in the retro-commissioning report.

   New
   HVAC and service water equipment.
   (i) Pre-testing verification. An inspection, documented through pre-test verification forms, of all major equipment and its sub-equipment and components located in all common areas, at least 20% of such equipment located in non-common owner areas and at least 10% of such equipment located in accessible non-common tenant areas must be conducted to check for cleanliness and proper operation. Such inspection ensures that the system is able to be tested. Where major equipment, sub-equipment, and components are found to require cleaning, repair or correction for proper operation, correct all deficiencies prior conducting functional performance testing and document the post-correction condition in the retro-commissioning report under issues log.
   (ii) Functional performance testing. Functional performance testing. Performance verification through functional performance testing for all major equipment and its sub-equipment and components located in the common areas, at least 20% of such equipment located in the non-common owner areas and at least 10% of such equipment located in the non-common tenant areas must be performed during normal operating conditions. Functional performance testing includes but is not limited to all controls, actuation, automation and sequencing functions impacting energy consumption of the major equipment such as control sequence of operation, economizer function, staging and load distribution, automatic reset function and integrated system level testing. The functional performance test result and process must be reported on forms acceptable to the department. Proper function must be determined from field observation and may include interviews with facility staff, trend analysis, or dedicated data loggers. Where equipment requires correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.

   Late 2012
   RETRO-COMMISSIONING. A systematic process for optimizing the energy efficiency of existing base building systems through the identification and correction of deficiencies in such systems, including but not limited to repairs of defects, cleaning, adjustments of valves, sensors, controls or programmed settings, and/or changes in operational practices.

   Late 2012
   HVAC and service water equipment - Temperature and pressure setpoints and setbacks
   Added a sample set of testing, verification and correction of such system set points are appropriate to the CFR and setbacks operate during unoccupied periods as stated by the CFR. Where set points and setbacks require correction, the condition must be corrected and noted in the retro-commissioning report.
### 17 Technical

**HVC and service water equipment ‐ Sensors calibration**

#### LL97/09

**1.12. Lighting sensors and controls are functioning properly according to occupancy, schedule, and/or available daylight, where applicable.**

**Existing rule of year 2012**

(A) HVAC sensors.

- All critical sensors that are part of a control sequence and have direct control of a major piece of equipment such as a boiler, boiler, pump, or air handling unit of capacity greater than 5,000 cubic feet per minute must be tested for proper calibration. Where sensors require correction, the condition must be corrected and noted on the retro-commissioning report.

- For monitoring sensors that measure air flow or temperature but are not part of a control sequence, a sample set consisting ten percent of all monitoring sensors, but in no event fewer than ten individual sensors, must be tested for proper calibration. If more than ninety percent of the sample set is found to be satisfactory, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be satisfactory, then all monitoring sensors serving base building systems must be tested for proper calibration.

Where sensors require correction, the condition must be corrected and noted on the retro-commissioning report.

#### LL97/09

**1.8. Simultaneous heating and cooling does not occur unless intended.**

**Existing rule of year 2012**

(xviii) Simultaneous cooling and heating. A sample set consisting ten percent of the HVAC system air handling units must be tested to verify that simultaneous heating and cooling is not occurring, unless intended. If the entirety of the sample set is found to be without unintended simultaneous heating and cooling, then no further sampling is required for the purposes of the retro-commissioning report. If any portion of the sample set is found to have unintended simultaneous heating and cooling, then all base building air handling units must be tested for unintended simultaneous heating and cooling. Where unintended simultaneous cooling and heating is occurring, the condition must be corrected and noted on the retro-commissioning report.

### 18 Technical

**HVC and service water equipment ‐ Simultaneous heating and cooling**

#### LL97/09

(xviii) Simultaneous cooling and heating. A sample set consisting ten percent of the HVAC system air handling units must be tested to verify that simultaneous heating and cooling is not occurring, unless intended. If the entirety of the sample set is found to be without unintended simultaneous heating and cooling, then no further sampling is required for the purposes of the retro-commissioning report. If any portion of the sample set is found to have unintended simultaneous heating and cooling, then all base building air handling units must be tested for unintended simultaneous heating and cooling. Where unintended simultaneous cooling and heating is occurring, the condition must be corrected and noted on the retro-commissioning report.

### 19 Technical

**HVC and service water equipment ‐ Boilers tuned for optimal efficiency.**

#### LL97/09

**2.7. Boilers have been tuned for optimal efficiency, if applicable.**

**Existing rule of year 2012**

(xvi) Boilers tuned for optimal efficiency. A combustion efficiency test must be conducted for each boiler serving a base building system, and the boiler must be tuned and cleaned to perform at optimal efficiency for the current facility requirements. However, if the boiler has been tested and tuned within the twelve months prior to the reporting date of the retro-commissioning report, then the results of such tuning must be included in the retro-commissioning report, and no further testing and tuning will be required.
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<th><strong>20</strong> Technical</th>
<th>HVAC and service water equipment - Manual override remediation.</th>
</tr>
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<tbody>
<tr>
<td><strong>L87/09</strong></td>
<td>2.6. Manual overrides on existing equipment have been remediated.</td>
</tr>
<tr>
<td><strong>Existing rule of year 2012</strong></td>
<td>(vi) Manual override remediation. The retro-commissioning agent must confirm that major equipment is not being manually operated.</td>
</tr>
</tbody>
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<tr>
<th><strong>21</strong> Technical</th>
<th>HVAC and service water distribution - Leaks</th>
</tr>
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<tbody>
<tr>
<td><strong>L87/09</strong></td>
<td>1.15. System water leaks have been identified and repaired.</td>
</tr>
<tr>
<td><strong>Existing rule of year 2012</strong></td>
<td>(iv) Leaks. Major equipment and its sub-equipment and components in all common areas, at least 20% of such equipment located in non-common owner areas and at least 10% of such equipment located in the accessible non-common tenant areas must be visually checked for water, steam, oil, or air leaks.</td>
</tr>
</tbody>
</table>
23 Technical
HVAC and service water distribution - High pressure steam traps.

LI7/09
2.3. Steam traps have been replaced as required to maintain efficient operation, if applicable.

Existing rule of year 2012
(v) Steam traps.
(A) The retro-commissioning agent must confirm with facility maintenance staff that a protocol is in place for the testing of steam traps and replacement of non-functional steam traps. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected. A satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.
(B) A sample set constituting ten percent of all steam traps in areas served by base building system must be tested to verify operation. If more than ninety percent of the sample set is found to be functioning properly, then no further sampling is required for the purposes of the retro-commissioning report; less than ninety percent of the sample set is found to be functioning properly, then all areas served by the base building steam system must be tested to verify that the steam traps are operational. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
Addition of steam travel time test to confirm balanced steam distribution and working main vents.

(vi) High pressure steam traps.
All high pressure steam traps operating above 15 PSI of pressure must be tested using ultrasonic leak detection to verify proper operation or replaced. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

24 Technical
HVAC and service water distribution - One Pipe Steam Distribution.

LI7/09
2.3. Steam traps have been replaced as required to maintain efficient operation, if applicable.

Existing rule of year 2012
(v) Steam traps.
(A) The retro-commissioning agent must confirm with facility maintenance staff that a protocol is in place for the testing of steam traps and replacement of non-functional steam traps. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected. A satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.
(B) A sample set constituting ten percent of all steam traps in areas served by base building system must be tested to verify operation. If more than ninety percent of the sample set is found to be functioning properly, then no further sampling is required for the purposes of the retro-commissioning report; less than ninety percent of the sample set is found to be functioning properly, then all areas served by the base building steam system must be tested to verify that the steam traps are operational. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
Addition of steam travel time test to confirm balanced steam distribution and working main vents.

(vi) One-pipe steam distribution.
(A) All one-pipe steam distribution systems serving the major equipment must have steam traveling from the steam header to the end of each main loop vent(s) at less than five minutes.

25 Technical
HVAC and service water distribution - Two-pipe steam distribution.

LI7/09
2.3. Steam traps have been replaced as required to maintain efficient operation, if applicable.

Existing rule of year 2012
(v) Steam traps.
(A) The retro-commissioning agent must confirm with facility maintenance staff that a protocol is in place for the testing of steam traps and replacement of non-functional steam traps. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected. A satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.
(B) A sample set constituting ten percent of all steam traps in areas served by base building system must be tested to verify operation. If more than ninety percent of the sample set is found to be functioning properly, then no further sampling is required for the purposes of the retro-commissioning report; less than ninety percent of the sample set is found to be functioning properly, then all areas served by the base building steam system must be tested to verify that the steam traps are operational. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
Addition of steam travel time test to confirm balanced steam distribution and working main vents.

(vi) Two-pipe steam distribution.
(A) The main supply and main return piping surface temperatures for all two-pipe steam distribution systems serving major equipment must have a differential of 30 degrees F or more. The retro-commissioning agent must confirm with the facility maintenance staff that a protocol is in place for the testing of steam traps and replacement of non-functional steam traps. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected. A satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.

26 Technical
HVAC and service water distribution - air side and water distribution.

LI7/09
1.10. The HVAC distribution systems, both air and water side, are balanced.

Existing rule of year 2012
HVAC distribution balancing. All major systems that include chillers, boilers, cooling towers, air handlers, or pumps, must be tested for proper balance for current facility requirements. A major system as used in this subparagraph means a system that serves more than 10,000 square feet. If the system is found to be out of balance, the condition must be corrected and noted on the retro-commissioning report. System balancing may only be performed by an individual certified in the testing and balancing of HVAC systems by the National Environmental Balancing Bureau (NEBB), the Testing, Adjusting and Balancing Bureau (TAB), or the Associated Air Balance Council (AABC).

This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
This addition re-clarifies the scope of work for LI7/09 and modifies existing rule of year 2012
All d dampers, fans, actuators and controls associated with air-side distribution serving major equipment must be functionally tested per CFR. Where deficiency is identified, the condition must be corrected and the post correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.

(v) Air-side distribution.
All dampers, fans, actuators and controls associated with air-side distribution serving major equipment must be functionally tested for proper operation as per CFR. Where deficiency is identified, the condition must be corrected and the post correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.

(vi) Water-side distribution.
All valves on coils, automatic isolation valves at pumps, actuators and controls associated with water-side distribution serving major equipment must be functionally tested for proper operation as per CFR. Where deficiency is identified, the condition must be corrected and the post correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.
28 Technical Mechanical ventilation rates.

1.8/09
1.11. Light levels are appropriate to the task.
1.1.2. Lighting sensors and controls are functioning properly according to occupancy, schedule, and/or available daylight, where applicable.

Existing rule of year 2012
(a) Light levels. A sample set constituting ten percent of the area served by base building lighting systems must be tested to verify that the lighting levels are appropriate for the current facility requirements. The sample set should include areas of different uses. If more than ninety percent of the sample set is found to be within fifteen percent of current facility required lighting levels for a given area, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be appropriate, then all outdoor air intakes serving base building systems must be measured. Where flow rates require correction, the condition must be corrected and noted on the retro-commissioning report.

Updated
This addition re-clarifies the scope of work for 1.8/09 and modifies existing rule of year 2012
Clarified the language for lighting levels. Lighting levels (foot candles) in all common areas, and at least 20% of the non-common owner areas must comply with the CFR. The sample set should include at least 10% of each area of different use. Sensors and controls:
(a) All common area lighting systems, at least 20% of the interior lighting systems in the non-common owner areas, and all exterior lighting systems must be checked to verify that the lighting sensors and controls are functioning properly and correction.
(b) Light fixture cleanliness sections have been removed.

(xii) Lighting systems.

(xii) Mechanical ventilation rates. A sample set constituting at least 10% of all mechanical outdoor air intakes, but in no event fewer than three outdoor air intakes, must be measured to verify that the flow rates are appropriate for the CFR. If more than 80% of the sample set is found to be appropriate, then no further sampling is required for the purposes of the retro-commissioning report. If less than 80% of the sample set is found to be appropriate, then all mechanical outdoor air intakes serving base building systems must be measured. Where flow rates require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

29 Technical Lighting system.

1.8/09
BASE BUILDING SYSTEMS. The systems or subsystems of a building that use energy and/or impact energy consumption including:
1. The building envelope.

Existing rule of year 2012
(a) Sealants and weather stripping. A visual inspection must be conducted to a sample set constituting ten percent of all accessible locations to confirm that sealants and weather stripping are installed and in good condition. If any portion of the sample set is found to be deficient in any area served by the base building lighting system must be checked to verify that the lighting sensors and controls are functioning properly.

Updated
This addition re-clarifies the scope of work for 1.8/09 and modifies existing rule of year 2012
Clarified the language for lighting levels. Lighting levels (foot candles) in all common areas, and at least 20% of the non-common owner areas and at least 10% of all common areas (see section on infiltration and air intakes) and other areas of potential major air infiltration and in good condition. Where any sealant or weather stripping is found to require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

(xiv) Envelope. Sealants and weather-stripping. An inspection must be conducted in all common areas, at least 20% of non-common owner areas and at least 10% of non-common tenant areas to confirm that accessible sealants and weather stripping are installed around doors, windows, conduits, piping, joints, and other areas of potential major air infiltration and in good condition.
Effective October 1, 2016

31. Technical

Envelope - Windows and doors

318/99

BANK BUILDING SYSTEMS. The systems or subsystems of a building that use energy and/or impact energy consumption including:

1. The building envelope.

New

This addition re-clarifes the scope of work for 318/99

An inspection must be conducted in common areas to confirm that all windows and doors are in good condition. Where any door or window is not in good condition, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

[C] Windows and doors. An inspection must be conducted in common areas to confirm that all windows and doors are in good condition. Where any door or window is not in good condition, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

32. Technical

Training and documentation.

318/99

3. Training and documentation:

3.1. Permits for all HVAC, electrical and plumbing equipment are in order.

3.2. Critical operations and maintenance staff have received appropriate training, which may include labor-management training, on all major equipment and systems and general energy conservation techniques.

3.3. Operational and maintenance record keeping procedures (log books, computer maintenance records, etc.) have been implemented.

3.4. The following documentation is on site and accessible to the operators: the operations and maintenance manuals, if such manuals are still available from the manufacturer, the maintenance contracts, and the most recent retro-commissioning report.

§28-308.3.1 Documentation of retro-commissioning. A copy of the latest up-to-date equipment manuals and the most recent retro-commissioning report shall be maintained at every covered building and shall be made available upon request for inspection by the department.

Existing rule of year 2012

(a) Training and documentation. On-site documentation in accordance with §308-308.3(1) of the Administrative Code must be verified and noted on the retro-commissioning report.

Verification of training of critical operations and maintenance staff must be noted on the retro-commissioning report.

(ii) Record retention. Owners of covered buildings as defined in § 28-308.1 of the Administrative Code must maintain the Energy Audit Report required by §28-308.2.1 of the Administrative Code and the Retro-commissioning Report required by §28-308.3.1 of the Administrative Code as proof of energy audits and retro-commissioning as required in Article 308. Such records must be retained for fourteen years from the required submission date and must be made available to the department upon request.

33. Administrative

Report Submission (EMR)

318/99

§28-308.4 Energy efficiency report required. Except as otherwise provided in section 28-308.7, the owner of a covered building shall file an energy efficiency report for such building between January first and December thirty-first of the calendar year in which such report is due pursuant to this section and between January first and December thirty-first of every tenth calendar year thereafter.

§28-308.4.2 Combined audit and retro-commissioning

Nothing in this article shall prevent an owner from performing the audit and the retro-commissioning in a combined process provided that all the requirements of sections 28-308.2 and 28-308.3 are met.

§28-308.5 Content of energy efficiency report. Except as otherwise provided in section 28-308.7, the energy efficiency report shall include, in a format prescribed by the department:

(i) the energy audit report or documentation substantiating that an exception as set forth in section 28-308.2 applies to such building, and

(ii) the retro-commissioning report or documentation substantiating that an exception as set forth in section 28-308.3 applies to such building.

New

This addition re-clarifes the scope of work for 318/99 and modifies existing rule of year 2012

The energy audit and retro-commissioning report must be uploaded through the web-based Energy Audit template tool when submitted to the department.

The EER must include the Deep Energy Retrofit Plan Analysis tool when submitted to the department.

The results of this tool must also be presented to the owner prior to submitting to the department.

[i] Contents of the EER. An EER in accordance with § 28-308.5 of the Administrative Code must be submitted to the department in accordance with § 28-308.4 of the Administrative Code on forms prescribed by the department. The results of this tool must also be presented to the owner prior to submitting to the department.

34. Administrative

Multi covered buildings on a lot separately, or share base building systems, or different tax lots share base buildings.

Existing rule of year 2012

(i) Multiple buildings.

(ii) Multiple buildings on a lot. Two or more buildings on a lot that constitute a covered building in accordance with §28-308.1 of the Administrative Code are subject to an energy audit and retro-commissioning of base building systems as follows:

(a) Multiple buildings on a covered lot that are equipped with base building systems that are wholly separate from each other are subject to the requirements for an EER for each individual building.

(b) Multiple buildings on a covered lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.

No change

(i) Multiple buildings. Two or more buildings on a lot that constitute a covered building in accordance with §28-308.1 of the Administrative Code are subject to an energy audit and retro-commissioning of base building systems as follows:

(a) Multiple buildings on a covered lot that are equipped with base building systems that are wholly separate from each other are subject to the requirements for an EER for each individual building.

(b) Multiple buildings on a covered lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.

Page 11 of 13
Administrative Challenge

Existing rule of year 2012

(i) Challenge to violations.

1. An owner may challenge a violation issued pursuant to this section by providing:
   a) proof from the Department of Finance that the building in question is not a "covered building" as defined in section 28-308.1 of the Administrative Code; or
   b) proof of early compliance with the filing requirements pursuant to section 28-308.7 of the Administrative Code; or
   c) proof that the building is less than ten years old at the start of its first assigned calendar year; or
   d) proof that the building underwent substantial rehabilitation within the preceding ten years; or
   e) proof that the owner was granted an extension of time to file the report.

2. Such challenge must be made in writing on a form provided by the Department within thirty days from the postmark date of the violation served by the Department.

New

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Revise the language to include:

Proof that the application to defer filing an EER was approved. Removed: base building systems underwent substantial rehabilitation within the preceding ten years.

Challenge to violations.

(i) An owner may challenge a violation issued pursuant to this section by providing:

1. (i) proof from the Department of Finance that the building in question is not a "covered building" as defined in section 28-308.1 of the Administrative Code; or
2. (j) proof of early compliance with the filing requirements pursuant to section 28-308.7 of the Administrative Code; or
3. (iii) proof that the building is a new building (NB) with a first temporary certificate of occupancy less than ten years old at the time the building was due to comply, or
4. (iii) proof that the application to defer filing an EER was approved; or
5. (iv) proof that the owner was granted an extension of time to file the report.

(2) Such challenge must be made in writing on a form provided by the Department within thirty days from the postmark date of the violation served by the Department.

Administrative

36

Multiple covered buildings under cooperative corporations

Existing rule of year 2012

(i) Extension of time to file report.

1. An owner may apply for an extension of time to file an energy efficiency report if, despite good faith efforts, the owner is unable to complete the required energy audit and retro-commissioning prior to the due date of the report, for reasons other than financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due.

2. An owner may apply for annual extensions of time to file an energy efficiency report based on the financial hardship of the building.

New

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Updated

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Due date for the application to file an extension request is changed from October 1 to December 31.

Administrative

37

Extension of time to file report

Existing rule of year 2012

(i) Extension of time to file report.

1. An owner may apply for an extension of time to file an energy efficiency report if, despite good faith efforts, the owner is unable to complete the required energy audit and retro-commissioning prior to the due date of the report, for reasons other than financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due and by October 1 of every subsequent year for which an extension is requested.

2. An owner may apply for annual extensions of time to file an energy efficiency report on the financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due.

New

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Updated

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Due date for the application to file an extension request is changed from October 1 to December 31.

Administrative

38

EER under Comprehensive Review

Existing rule of year 2012

(i) Violation and penalty. Failure to submit an EER is a Major Class 2 violation which may result in a penalty of $5,000 in the first year and $5,000 for each additional year until the EER is submitted to the Department. The department will not accept any outstanding EER submission if outstanding penalties are not paid in full.

New

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Updated

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Incorporated "Acceptable" EER definition within violation and penalty section.

An acceptable EER is a technical energy audit and retro-commissioning report filed by an energy auditor and retro-commissioning agent that meets the requirements of the Administrative Code and this section, as determined by the department.

Administrative

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Violation and penalty

Existing rule of year 2012

(i) Violation and penalty. Failure to submit an EER is a Major Class 2 violation which may result in a penalty of $5,000 in the first year and $5,000 for each additional year until the EER is submitted to the Department. The department will not accept any outstanding EER submission if outstanding penalties are not paid in full.

New

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Updated

This addition re-classifies the scope of work for LL87/09 and modifies existing rule of year 2012

Incorporated "Acceptable" EER definition within violation and penalty section.

An acceptable EER is a technical energy audit and retro-commissioning report filed by an energy auditor and retro-commissioning agent that meets the requirements of the Administrative Code and this section, as determined by the department.

Administrative

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Challenge to violations

Existing rule of year 2012

(i) Challenge to violations.

1. An owner may challenge a violation issued pursuant to this section by providing:
   a) proof from the Department of Finance that the building in question is not a "covered building" as defined in section 28-308.1 of the Administrative Code; or
   b) proof of early compliance with the filing requirements pursuant to section 28-308.7 of the Administrative Code; or
   c) proof that the building is less than ten years old at the start of its first assigned calendar year; or
   d) proof that the building underwent substantial rehabilitation within the preceding ten years; or
   e) proof that the owner was granted an extension of time to file the report.

2. Such challenge must be made in writing on a form provided by the Department within thirty days from the postmark date of the violation served by the Department.
## §28-308.2 Combined audit and retro-commissioning
Nothing in this article shall prevent an owner from performing the audit and the retro-commissioning in a combined process provided that all the requirements of sections 28-308.2 and 28-308.3 are met.

### §28-308.5 Content of energy efficiency report
Except as otherwise provided in section 28-308.7, the energy efficiency report shall include, in a format prescribed by the department, (i) the energy audit report or documentation substantiating that an exception as set forth in section 28-308.2 applies to such building, and (ii) the retro-commissioning report or documentation substantiating that an exception as set forth in section 28-308.3 applies to such building.

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**New Updated**
This addition re-clarifies the scope of work for LL87/09 and modifies existing rule of year 2012 after publication including section 3 of Energy auditor and retro-commissioning agent qualifications.

Sections 1, 2, 4, 5, 6, 7, 8, and 9 shall be effect on January 1, 2020.

Following gets uploaded through the online Energy Audit Template tool:
- EERC1 Final Energy Audit Report (PDF)
- EERC2 Final Retro-Commissioning Report (PDF)
- DERPA Deep Energy Retrofit Plan Analysis tool Report

Receipt from the online submission gets emailed to LL87@buildings.nyc.gov along with the retro-commissioning excel tool and EERC2 form to complete the EER submission.

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**§ 11.** This rule shall take affect 10 days after its publication provided, however, that the amendments made by sections one, two, and four through nine shall take affect on January 1, 2020.